

UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF ILLINOIS
EASTERN DIVISION

UNITED STATES OF AMERICA

v.

MARTIN A. CROSSLEY

No. 20 CR 369

Judge Martha M. Pacold

**GOVERNMENT'S RESPONSE IN OPPOSITION TO
DEFENDANT'S MOTION IN LIMINE TO BAR EXPERT TESTIMONY**

The UNITED STATES OF AMERICA, by its attorney, JOHN R. LAUSCH, JR., United States Attorney for the Northern District of Illinois, hereby provides its response in opposition to defendant Martin Crossley's motion in limine to bar the expert testimony of Federal Bureau of Investigation Special Agent Jeremy Bauer. Dkt. 57.

BACKGROUND

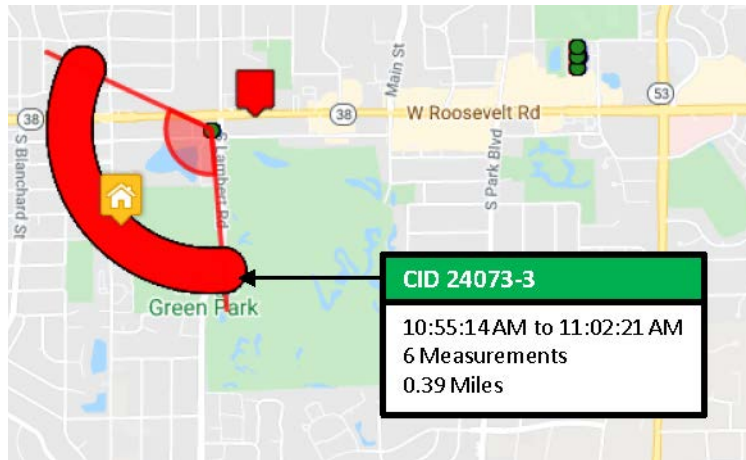
At trial, the government intends to call Federal Bureau of Investigation (FBI) Special Agent (SA) Jeremy Bauer as an expert witness in the field of historical cell site analysis. The government provided notice to the defense of this expert witness testimony on May 6, 2021 (expert notice and Curriculum Vitae, attached as Exhibits A and B), and May 11, 2021 (supplemental expert disclosure with expert report, attached as Exhibit C). SA Bauer is currently finalizing his anticipated trial presentation, which is based on the conclusions in the previously disclosed expert materials, and a copy of his trial presentation will be produced to the defense upon

receipt by the United States. The government has also previously produced the call detail records for the cell phone number that SA Bauer analyzed.

At trial, SA Bauer is expected to testify about the attached exhibits that he prepared based on the cell site records for the defendant's telephone number. These exhibits are maps reflecting: (1) the location of T-Mobile cell towers in the Illinois and Wisconsin area; (2) the location of the specific cell towers utilized by the subject phones on material dates, and (3) the location of other places that are pertinent to the charged crime.

Also included among the exhibits is a map that displays an estimated distance from cell tower to cell phone based on timing advance data.¹ The map does not purport to pinpoint the location of the phone but rather shows a general area where the phone would be expected to be based on information received from the cell phone service provider. This is illustrated by a wide arc intended to show the approximate phone location as being within +/- 100 meters of an arc of distance estimated based on the service provider information concerning timing advance data, cell site location, and which cell tower face was used:

¹ As SA Bauer will testify, timing advance data is a measurement derived from the amount of time it takes for a signal to travel from a cell phone to a tower and return.



Defendant seeks exclusion of SA Bauer's testimony on grounds that it is not based on reliable principles and methods and could lead to juror confusion. Contrary to the defendants' claim, the evidence that the government intends to offer – historical cell site analysis – is scientifically valid, probative, reliable and relevant. It will also assist the trier of fact in deciding the facts at issue in this case. The United States respectfully submits that this Court should exercise its broad discretion to allow expert testimony concerning historical cell tower analysis. Further, the United States respectfully submits that it is unnecessary to conduct a pretrial hearing on the requirements of *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 509 U.S. 579 (1993), for this type of evidence and testimony.

SA Bauer has been qualified and testified as an expert witness on historical cell site analysis twice over the past two years in this District. Ex. B. SA Bauer has also testified as an expert in historical cell site analysis two times in state court. *Id.* SA Bauer has been an FBI Agent for 5 years and served the FBI in other capacities

for an additional 6 years before that. He has received over 300 hours of training and instruction in the use of cellular phones and investigations. Those training include trainings from T-Mobile, the cellular service provider at issue in this case. He has instructed approximately 500 officers in basic techniques for utilizing cell phones in investigations. He has also used historical cell site data on numerous occasions to locate individuals in other FBI investigations.

If called to testify as an expert in the field of historical cell site analysis, the government expects SA Bauer would testify about basic cell phone operation and how it is possible to learn the general location of a cell phone receiving and making cell phone calls. SA Bauer will not testify about the defendant's cell phone's precise location using this method of analysis. He would testify that he was provided with certain dates and times relevant to this case and that he reviewed these dates and times in connection with the cell phone records. He would testify that he was able to determine which T-Mobile cell towers the cell phone at issue in this case utilized on the material dates.

The principles and methodology that SA Bauer proposes to rely upon in this case have been accepted by judges throughout the United States, including the Northern District of Illinois. Defendant has not cited a single case in which a court has concluded that *Daubert* principles should preclude the admission of the type of testimony that Agent Bauer will present in this case. Indeed, as discussed further below, the lone case cited by defendant that directly addressed the reliability of historic cell site analysis was a Seventh Circuit opinion that affirmed the district

court's admission of such analysis. Mot. at 8 (citing *United States v. Hill*, 818 F.3d 289 (7th Cir. 2016)).

ARGUMENT

A. Legal Standard

The admissibility of expert testimony is governed by Federal Rule of Evidence 702 and the framework established by the Supreme Court in *Daubert*. Specifically, expert testimony is admissible at trial pursuant to Fed.R.Evid. 702 as set forth below:

A witness who is qualified as an expert by knowledge, skill, experience, training, or education may testify in the form of an opinion or otherwise if: (a) the expert's scientific, technical, or other specialized knowledge will help the trier of fact to understand the evidence or to determine a fact in issue; (b) the testimony is based on sufficient facts or data; (c) the testimony is the product of reliable principles and methods; and (d) the expert has reliably applied the principles and methods to the facts of the case.

Fed.R.Evid. 702.

First, to determine whether the proposed expert testimony is reliable, courts determine “whether the expert is qualified in the relevant field” and “examine the methodology the expert has used in reaching his conclusions.” *Smith v. Ford Motor Co.*, 215 F.3d 713, 718 (7th Cir. 2000), citing *Kumho*, 526 U.S. at 153. First, an expert witness may be qualified by “knowledge, skill, experience, training, or education.” Fed. R. Evid. 702. An expert must have “extensive academic and practical expertise” or knowledge that “is based on experience.” *Smith*, 215 F.3d at 718, quoting *Bryant v. City of Chicago*, 200 F.3d 1092, 1098 (7th Cir. 2000), and *Walker v. Soo Line Railroad Co.*, 208 F.3d 581, 591 (7th Cir. 2000) (“Rule 702 specifically contemplates

the admission of testimony by experts whose knowledge is based on experience”). See also Fed. R. Evid. 702, 2000 Advisory Committee Note (“[i]n certain fields, experience is the predominant, if not the sole, basis for a great deal of reliable expert testimony.”) and *Metavante Corp. v. Emigrant Savings Bank*, 619 F.3d 748, 761 (7th Cir. 2010) (“An expert’s testimony is not unreliable simply because it is founded on his experience rather than on data . . .”).

Second, a court in its role as a gatekeeper must examine the expert’s methodology and determine whether it is “sound.” *Smith*, 215 F.3d at 719. Trial courts “in all cases of proffered expert testimony must find that it is properly grounded, well-reasoned, and not speculative before it can be admitted.” Fed. R. Evid. 702, 2000 Advisory Committee Notes. Trial courts, however, do not examine the “soundness of the factual underpinnings of the expert’s analysis,” “the correctness of the expert’s conclusions,” or whether the expert is credible to determine the admissibility of the expert’s testimony. *Smith*, 215 F.3d. at 718- 19. Those are factual matters reserved for the trier of fact “to determine after opposing counsel has been provided the opportunity to cross-examine the expert regarding his conclusions and the facts which they are based.” *Id.* at 719.

The Supreme Court in *Daubert* listed four non-exclusive factors that are helpful to determine the reliability of scientific or technical testimony: (1) whether the scientific theory or technique can be (and has been) tested; (2) whether the theory or technique has been subjected to peer review and publication; (3) whether a particular technique has a known potential rate of error; and (4) whether the theory

or technique is generally accepted in the relevant scientific community. *Daubert*, 509 U.S. at 593-95. The Court noted that these factors do not constitute a “definitive checklist or test,” and that “[m]any factors will bear on the inquiry” that involves “a preliminary assessment of whether the reasoning or methodology underlying the testimony is scientifically valid and of whether that reasoning or methodology properly can be applied to the facts in issue.” *Id.* at 592-93. The inquiry to be undertaken by a trial court is “a flexible one” focusing on the “principles and methodology” employed by an expert, not on the conclusions reached. *Id.* at 594-95. Expert testimony, like all other admissible evidence, is subject to testing by “[v]igorous cross-examination, presentation of contrary evidence, and careful instruction on the burden of proof.” *Id.* at 596.

In *Kumho Tire Co., Ltd. v. Carmichael*, 526 U.S. 137 (1999), the Supreme Court extended *Daubert* to include expert testimony involving technical and other specialized knowledge. *Kumho Tire*, 526 U.S. at 141. The Court held that a trial court “may consider one or more of the specific factors that *Daubert* mentioned when doing so will help to determine that testimony’s reliability.” *Id.* The Court again noted that a trial court considering the admissibility of expert testimony exercises a gate-keeping function to assess whether the proffered evidence is sufficiently reliable and relevant. *Id.*

Kumho Tire also made it clear that a trial court is not required to conduct a pre-trial hearing based on a *Daubert* challenge. *Id.* at 152. A trial court has considerable latitude in deciding whether or when special briefing or other

proceedings are needed to investigate challenged reliability of proposed expert testimony. *Id.* at 152-53. Pretrial evidentiary hearings are particularly unnecessary when expert testimony is based on well-established principles.

B. Numerous Courts Have Affirmed the Reliability of Historic Cell Site Analysis for Establishing the General Location of a Telephone.

Testimony about cell phone technology and the ability to determine the general area where calls are placed and received has been admitted in courts throughout the country. As noted above, SA Bauer has been qualified to offer expert testimony on historical cell site analysis multiple times. The science behind how cell phones work is accepted in the scientific and legal community. The defendant has not cited, and the government has not found, any cases in which a court has excluded a qualified expert from providing testimony on this topic for the purpose of establishing the *general* location of a cellular phone. Rather, courts routinely admit expert testimony of the kind SA Bauer is prepared to provide.

This Court need look no further than *United States v. Hill*, 818 F.3d 289 (7th Cir. 2016)—the only case cited by defendant that concerned historic cell site analysis—for an endorsement of the admissibility of cell site analysis. While *Hill* cautioned against the possibility of overselling the precision of historic cell site data, it concluded that “[h]istorical cell-site analysis can show with sufficient reliability that a phone was in a general area, especially in a well-populated one.” *Id.* at 298. Likewise, while the “mathematical error rate [of historic cell site analysis] has not been calculated ... the technique has been subjected to publication and peer criticism,

if not peer review.” *Id.* Ultimately, the Seventh Circuit held the admission of historic cell site testimony by a government expert was appropriate given the expert’s testimony acknowledging the limitations of the analysis. *Id.*; see also *United States v. Lewisbey*, 843 F.3d 653, 659 (7th Cir. 2016) (Holding that “[u]sing call records and cell towers to determine the general location of a phone at specific times is a well-accepted, reliable methodology.”).

Many other courts have endorsed the reliability of the type of testimony SA Bauer will present. *United States v. Schaffer*, 439 Fed.Appx. 344, 2011 WL 3820957, at 2 (5th Cir. Aug. 24, 2011) (affirming admission of cell site analysis and noting that cell site analysis is “neither untested nor unestablished.”); *United States v. Machado-Erazo*, 2013 WL 2932399 (D.D.C. June 17, 2013) (historical cell site analysis was based on “scientific knowledge” and thus “admissible under *Daubert*”); *United States v. Davis*, 2013 WL 2156659 (S.D. Fla. May 17, 2013); *United States v. Reynolds*, 2013 WL 2480684, at *5 (E.D. Mich. June 10, 2013) (“the ability to determine the general area where calls are placed and received has been widely accepted by federal courts” and historical cell site analysis was “the product of reliable principles and methods”); *United States v. Henderson*, No. CR 10-117 BDB, 2011 WL 6016477, at *4-*5 (N.D. Okla. Dec. 2, 2011); *United States v. Allums*, No. 02:08-CR-30 TS, 2009 WL 806748, at *2-*3 (D. Utah March 24, 2009); *United States v. Benford*, 2010 WL 2346305 (N.D. Ind.) (denying motion to exclude cell site analysis that would be introduced for purpose of revealing the general vicinity of where a cell phone was located).

Defendant argues that cell site analysis is unreliable given the lack of a known error rate for records provided by the cell service provider and T-Mobile's disclaimer that "T-Mobile does not conduct systematic testing of TrueCall data to ascertain the reliability or consistency of the location data it collects." So long as there are sufficient other indicia of reliability, lack of known error rate is not grounds for excluding an expert because "the Rule 702 test is a flexible one, and no single factor is either required in the analysis or dispositive as to its outcome." *Smith*, 215 F.3d 713, 719 (7th Cir. 2000). As set forth above, numerous courts have accepted historic cell site analysis as reliable for the purpose that it will be introduced in this trial: determining the general location of a phone at a given time. As SA Bauer will testify, historic cell site analysis is known to be reliable in part due to the plentiful investigations where historic cell site was used to track down phones or persons associated with phones. SA Bauer will also speak to his personal involvement in investigations where historic cell site was used for this purpose.

SA Bauer's testimony will acknowledge T-Mobile's disclaimer concerning testing the reliability or consistency of its location data. The government anticipates that SA Bauer will further testify that, based on his training and experience, the accuracy of timing advance data—the measure from which location estimates derive—is important to the overall functionality of cellular network services.

Defendant also argues that cell phone analysis is unreliable because phones connect to towers with the strongest signal, which is not always the closest tower. That observation is true but not a basis for exclusion. The court in *United States v.*

Jones, 918 F. Supp. 2d 1 (D.D.C. 2013) encountered and rejected such an argument in a motion to exclude historic cell site analysis: “the mere existence of factors affecting cell signal strength that the expert may not have taken into account goes to the weight of the expert's testimony and is properly the subject of cross-examination, but does not render the fundamental methodology of cell site analysis unreliable.” *Id.* at 5. The court went on to find the agent’s proposed testimony to be “based on reliable methodology” and noted “the use of cell phone location records to determine the general location of a cell phone has been widely accepted by numerous federal courts.” *Id.*

Numerous cases have reached the same conclusion: historical cell site testimony is sufficiently reliable to be admissible. The defendant’s motion is focused largely on the concern that SA Bauer will leave jurors with an impression that historical cell site analysis allows for a more precise estimate of phone location than it is truly capable of. This will be addressed through SA Bauer’s direct testimony, which will emphasize that historic cell site analysis can only convey “approximate” location information. SA Bauer will explain that cell phones connect to the cell tower with which the phone has the strongest, clearest signal but that real world factors, such as obstacles located in the signal path, can affect signal strength and clarity so that the strongest, clearest signal does not always correlate to the closest town. The net effect of this testimony will be to make clear to the jury that historic cell site analysis conveys general—not pinpoint accurate—information about phone location, thereby curing the concerns raised by defendant.

Further, defendant will no doubt emphasize the approximate nature of SA Bauer's analysis through cross examination. Thus, defendant's Rule 403 concern about juror confusion are without merit. Given the plethora of cases establishing the reliability of this testimony and the government's intention to elicit testimony concerning the limitations of the analysis, the court can decide this issue without a *Daubert* hearing.

CONCLUSION

For the reasons set forth above, defendant's motion should be denied.

Respectfully submitted,

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